Alternative Control Technology for Guided Weapons

Conventional Weapons Technology (WPN) C

Objectives

- Promote interchange on novel control schemes
- Establish joint analytical and experimental study
- Determine guidelines for applying novel controls
- Develop / test analysis and prediction techniques
- Test performance of aerodynamic analysis techniques applied to novel configurations

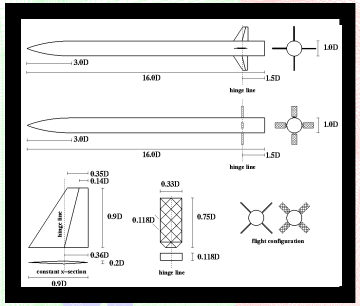
Payoff

Validated high angle of attack engineering design tools for novel flight control surfaces

DRDC

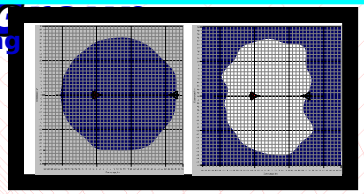
DERA

ARL
AFRL
AMRDEC

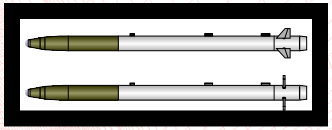


Tail Controlled Air-to-Air Missile (TCAAM)

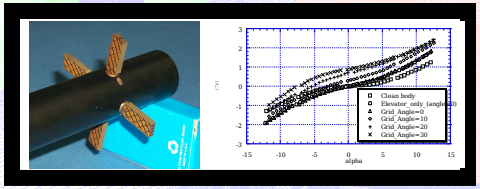
Kinematic Modeling



HADES 6-DOF

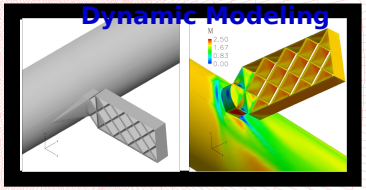


Conventional and lattice control SRAAM

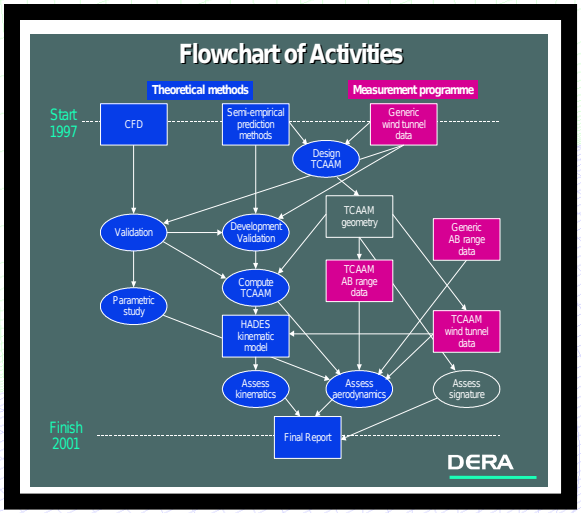


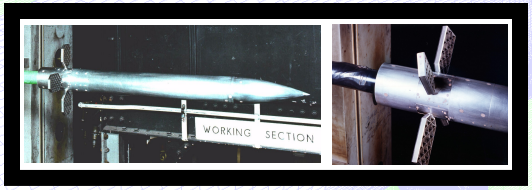
Wind Tunnel Experiments TCAAM

Computational Fluid Dynamic Modeling

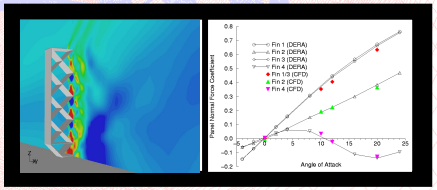


Euler CFD: Design Parameters

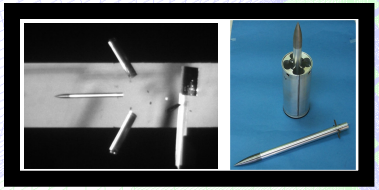




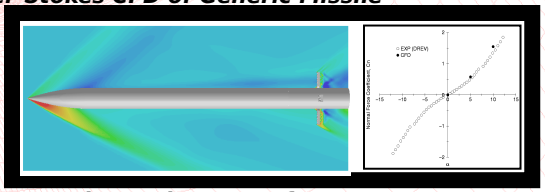
Generic Missile



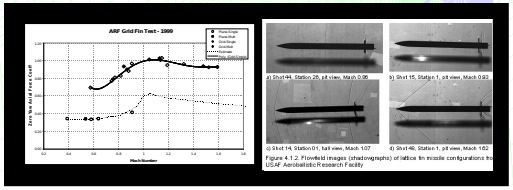
Navier-Stokes CFD of Generic Missile



Aeroballistic Experiments



Navier-Stokes CFD of TCAAM



Overview of KTA Activity

TTC

The Technical Cooperation Program

http://www.dtic.mil

The Future

Medium Caliber Guided